

WHAT IS CLAIMED IS:

1. A combination of an electrical device and a retainer clip for removably retaining the device on a panel through an open window in the panel by holding the panel between the device and the *retainer clip*, wherein the device comprises a device body, a device projecting portion projecting from a front surface of the device body, and two engaging elements projecting from the front surface at both sides of the device projecting portion opposite to each other in a first direction, wherein the panel is provided with the open window through which the device projecting portion and the engaging elements project in a second direction perpendicular to the first direction, and wherein the retainer clip is a plate member, which is larger than the open window and has a fitting space for receiving the device projecting portion and the two engaging elements together fit therethrough, the fitting space being defined by space edges comprising at least three first, second and third sides to thereby surround the device projecting portion and the two engaging elements together over at least three sides, the first and second sides extend in a third direction perpendicular to the first and the second directions outside of the two engaging elements opposite to each other in the first direction, the third side extends in the first direction at one side of the device projecting portion in the third direction, and the retainer clip has locking tabs projecting into the fitting space from the space edges of the fitting space in the plate member and in the same plane of the plate member for engaging with corresponding ones of the engaging elements of the device, and wherein, in order to retain the device through the open window in the panel by the retainer clip, the retainer clip is positioned on the panel at a first position where the retainer clip surrounds the device projecting portion and the engaging elements together and to hold the panel between the device body and the retainer clip, and is then slid in the first

direction into a second position where the locking tabs engage with corresponding ones of the engaging elements to thereby prevent the retainer clip from moving to apart from the panel and the device in the second direction, whereby the electrical device is retained on the panel through the open window in the panel, while the panel is secured between the retainer clip and the device body.

2. The combination as claimed in claim 1, wherein the electrical device is an electrical connector, which comprises a connector body and a connecting portion as the device body and the device projecting portion, respectively.

3. The combination as claimed in claim 2, wherein the connector is provided with latching members projecting from the front surface of the connector at both sides of the connecting portion in the first direction, each of the latching members is provided with the engaging elements (113b) and a latching hole for engaging with a corresponding one of locking members of a mating connector to maintain the connecting state between the connector and the mating connector.

4. The combination as claimed in claim 2, wherein the connector is provided with a metallic shell covering at least the connecting portion and the front surface of the connector body.

5. The combination as claimed in claim 2, further comprising a washer, wherein the washer is used for retaining the connector in the open window in the panel by use of the retainer clip and held between the front surface of the connector body and the panel.

6. The combination as claimed in claim 5, wherein said washer is made of conductive and elastic material.

7. The combination as claimed in claim 2, wherein said retainer clip is provided with at least three peripheral flanges extending from outer peripheries of the at least three side portions in the second direction.

8. The combination as claimed in claim 2, wherein at least one of the locking tabs is provided with a stopper protrusion projecting from the locking tab, and the corresponding one of the engaging elements is provided with a detent surface for engaging with the stopper protrusion when the retainer clip is slid into to the second position to prevent the retainer clip from moving from the second position oppositely in the first direction.

9. The combination as claimed in claim 8, wherein the retainer clip comprises first, second, third and fourth side portions defining a rectangular aperture as the fitting space, the first and second side portions extending in parallel with each other in the third direction and the third and fourth side portions extending in parallel with each other in the first direction, wherein the retainer clip has first, second, third and fourth locking tabs formed in the vicinity of the four corners of the rectangular aperture, the first and the second locking tabs being formed at the two corners of the opposite ends of the first side portion, respectively, and the third and fourth locking tabs being formed at positions on the third and fourth side portions in the adjacent but apart from the corners of opposite ends of the second side portion, a slit being left in the aperture between the second side portion and the third and fourth locking tabs for receiving one of the engaging elements when the retainer clip is in the first position, and wherein at least one of the first through fourth locking tabs is provided with the stopper protrusion.

10. The combination as claimed in claim 9, wherein first through fourth locking tabs are provided with the stopper protrusions projecting into the aperture at the ends of the first through fourth locking tabs, respectively, the first through fourth locking tabs and the stopper protrusion are coplanar with the plate member, and wherein each of the engaging elements of the connector is provided with the detent surfaces at opposite sides thereof in the third direction.

11. The combination as claimed in claim 9, wherein the first through fourth locking tabs are provided with the stopper protrusions projecting in the second direction from the first through fourth locking tabs, and wherein each of the engaging elements of the connector is provided with the detent surfaces on the engaging surfaces.

12. The combination as claimed in claim 9, wherein first and second finger elements are formed and extend from the third and fourth side portions to slightly project into the aperture and are bent to extend towards the first side portion in the first direction, and the first and second locking tabs are formed on ends of first and second elastic finger elements, and wherein first and second stopper protrusions are formed in the vicinity of extended ends of the first and second elastic finger elements, respectively, and wherein one of the engaging elements of the connector is corresponding to the first and second stopper protrusions and is provided with the detent surfaces on the opposite sides in the third direction.

13. The combination as claimed in claim 12, wherein the one of the engaging elements corresponding to the first and second stopper protrusions is further provided with a locking hole extending therethrough in the first direction, and wherein the retainer clip is further provided with a locking projection extending in the first direction from an aperture edge of the first side portion, the locking projection fitting into the locking hole when the retainer clip is in the second condition.

14. The combination as claimed in claim 2, wherein the retainer clip comprises first, second and third side portions defining a cut-away portion as the fitting portion, the first and second side portions extending in the third direction (Z) and the third side portion extending in the first direction and bridging the first and second side portions, two locking tabs being formed in the vicinity of the corner between the second and third side portions and at the free

end of the second side portion, respectively, a slit being left in the cut-away portion between the two locking tabs and the second side portion for receiving one of the engaging element of the connector when the retainer clip is in the first position, and an elastic finger element is formed to extend toward the first side portion from the third side portion in the first direction with slight bending, and a stopper protrusion is formed at an extended end of the elastic finger element, a finger tab extending from the free end of the first side portion in the first direction, and wherein one of the engaging elements of the connector is corresponding to the stopper protrusion and the finger tab and is provided with the detent surface to engage with the stopper protrusion when the retainer clip is in the second condition.

15. The combination as claimed in claim 14, wherein the one of the engaging elements corresponding to the stopper protrusions is further provided with a locking hole extending therethrough in the first direction, and wherein the retainer clip is further provided with a locking projection extending in the first direction from an edge of the first side portion, the locking projection fitting into the locking hole when the retainer clip is in the second condition.